REMARKS

Claims 1, 18-27, and 30-46 are now pending in the application, claims 28 and 29 having been canceled by the present amendment and claims 45 and 46 having been added. Claims 1, 23, 30-32, 36, and 44 have been amended. **Claim 1** has been amended to include the limitation previously recited in claim 29 and is further supported by the specification at page 13, lines 13-15. **Claims 23, 30-32, and 36** have been amended to capitalize proper nouns. **Claim 44** has been amended to read as an independent claim. New **claim 45** depends from claim 44 and specifies that the first domain and/or the second domain of the therapeutic agent includes a polypeptide, as recited in the specification (*see, e.g.*, Applicants' reference to therapeutic agents as "tri-peptide fusion proteins" (specification at page 4, lines 21-23; *see also* page 5, lines 3-6)). New **claim 46** also depends from claim 44 and specifies that the first and/or second protein can be Huntingtin, an amyloid-associated protein, or a transcription factor. New claim 44 is supported by the specification at, for example, page 4, line 23 through page 5, line 2 and at page 10, line 25 through page 11, line 3. No new matter has been added.

35 U.S.C. § 102

The Examiner has maintained the rejection of claims 1, 18-20, 28-35, and 38 as being anticipated by Peterson *et al.* (*Science* 248:1625-1630, 1990; herein, "Peterson"). Peterson studied TFIID, a protein that binds the TATA box and thereby helps to initiate mRNA synthesis (see Peterson's abstract and introduction). With respect to Peterson's studies, the Examiner states that "[o]nce the coactivator transcription factors are bound to the TATA binding protein they are physically separated" and the "coactivator transcription factors do not bind to each other" (Office action at pages 4-5). Thus, the Examiner reasons that, because the TATA binding protein Peterson disclosed – TFIID – participates in a complex with TFIIA and TFIIB, that TFIID meets the limitations of claim 1 and therefore anticipates Applicants therapeutic agent. Applicants previously argued that TFIID is excluded from the claims because TFIID *facilitates* the interaction between proteins (TFIIA and TFIIB) in a way that promotes gene expression

whereas the therapeutic agent claimed must *prevent* interaction between two proteins. That argument failed to persuade the Examiner, who states:

> The phrase "prevents interaction" is being interpreted with a broad reasonable interpretation that can encompass, describing the action of keeping the first protein physically away from the second protein and thus preventing a protein-protein interaction. Applicants own dependent claims 40 and 43 interpret the word, "interaction" as aggregation, and dimerization, thereby describing and suggesting multiple types of interactions. Therefore, the TATA binding protein disclosed in Peterson et al. does anticipate the claims as described in the 35 U.S.C. 102(b) rejection.

In view of the present amendment of claim 1 and the remarks that follow, this ground for rejection should now be withdrawn. Claim 1 has been amended to state that the therapeutic agent "inhibits an *abnormal or undesirable* interaction between the first protein and the second protein". It is evident from the specification that the *therapeutic* agent claimed is one that affects protein-protein interaction *that would otherwise occur* in the absence of the therapeutic agent. The therapeutic agents Applicants described, and now claim, are ones that inhibit protein-protein interaction that occurs in the event of a disease, not naturally occurring proteins that participate in a normal and physiologically beneficial event.

While the Examiner may indeed give claim terms their broadest reasonable interpretation, that interpretation must be consistent with the specification. *In re Hyatt*, 211 F.3d 1367 (Fed. Cir. 2000). Moreover, the broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1359 (Fed. Cir. 1999). In the present case, upon reading the specification, one of ordinary skill would find Applicants' statements that:

> The present invention is based on the discovery of *therapeutic agents* that can be used to ... treat Alzheimer's *disease*, *disorders* associated with expanded CAG repeats (such as Huntington's Disease), and *disorders* in which polyglutamine-containing transcription factors or coactivators are *undesirably* active (*e.g.*, *disorders* associated with homodimerization of jun or hexamerization of p53) (page 3, lines 4-9; emphasis added).

This teaching makes it clear that the agents within the scope of the invention are therapeutic agents; that is, agents useful in the context of a disease or disorder. Applicants fail to see how one of ordinary skill in the art could conclude that Applicants' invention includes TFIID, a naturally occurring transcription factor that facilitates the interaction between TFIIA and TFIIB and promotes gene expression in a desirable way in healthy animals.

Similarly, Applicants teach:

> The third domain [of the therapeutic agent] can assume a number of configurations so long as it separates the first and second domains in a way that *prevents* the bound polypeptide targets (*i.e.*, the polypeptides bound to each of the first and second domains) from interacting *as they otherwise would* (page 6, lines 3-5).

One of ordinary skill in the art would understand from this description that Applicants' therapeutic agent could not be Peterson's TFIID, as TFIID does not prevent polypeptides from interacting as they otherwise would. Indeed, TFIID facilitates the natural interaction between TFIIA and TFIIB.

Given that Applicants have amended claim 1 to specify that the therapeutic agent claimed "inhibits an abnormal or undesirable interaction" between polypeptides and that one of ordinary skill in the art, upon reading Applicants' specification, would understand that the therapeutic agents described therein (*i.e.*, therapeutic agents used to treat abnormal or undesirable association between two polypeptides) do not include the naturally occurring transcription factor TFIID, this ground for rejection should now be withdrawn.

35 U.S.C. § 103

The Examiner rejected claims 1, 18-22, 24-28, 34-36, and 38-44 as being obvious over Burke *et al.* (U.S. Patent No. 6,632,616; herein, "Burke") in view of Huston *et al.* (U.S. Patent No. 5,525,491; herein, "Huston").

As the Examiner is aware, one of the requirements for a *prima facie* case of obviousness is that the prior art must teach or suggest all the limitations of the claims. MPEP at 2143.

Claim 29 was *not* rejected as being obvious because neither Burke nor Huston, either alone or in combination, disclosed a polypeptide having a third domain that consists of a polypeptide comprising an alpha-helical region or a beta-sheet. That limitation, previously recited in claim 29, has now been incorporated in claim 1. Accordingly, the therapeutic agent covered by amended claim 1 cannot be obvious. This ground for rejection should now be withdrawn.

The present amendment of claim 1 is not an admission that claim 1, as previously presented, covered subject matter that was obvious. Applicants have amended claim 1 to expedite prosecution of this application and explicitly reserve their right to pursue broader subject matter by way of a continuation application.

CONCLUSION

In view of the foregoing, Applicants submit that the present claims are in condition for allowance, which action is respectfully requested.

Enclosed is a check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: February 22, 2005

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